

## Trend Analysis: Freight and Sustainability

### Trend Statement

The sustainability movement incorporates many environmental, regulatory, architectural, planning, design and technology-driven efforts. These may take the form of livability and smart growth principles, cap-and-trade regulations, land use and zoning codes, and technology-based standards as in the case of fuel efficiency standards for vehicles. Very often, these efforts do not recognize the relationship between freight and sustainability. In fact, they may assume that the two are incompatible. However, excluding freight from the planning process makes creating livable and sustainable communities more difficult. Like other uses that are considered to be integral to sustainable living (including open space, quality residential environments and transit), freight needs dedicated urban spaces, like those for loading and unloading, to avoid negatively impacting the quality of life for residents and businesses alike.

### Background

In 2009, the Obama administration proposed a new, integrated sustainability model that tied infrastructure investments, especially transportation investments, to housing, land use and the environment. Subsequently the United States (U.S.) Department of Housing and Urban Development (HUD), U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA) formed a Partnership for Sustainable Communities to coordinate inter-agency efforts and developed six principles of livability to guide federal funding programs, policies, and legislation. The principles<sup>1</sup> include:

- Providing more transportation choices
- Promoting equitable, affordable housing
- Enhancing economic competitiveness
- Supporting existing communities
- Coordinating and leveraging federal policies and investment
- Valuing communities and neighborhoods

While enhancing economic competitiveness may include the safe and efficient flow of goods, the focus of the livability principle is to “improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers, as well as expanded business access to markets.” The public investments principle references strategies like transit-oriented development, mixed-use development and land recycling, not increasing capacity for freight movements. Similarly, smart growth principles have coalesced around mixed use development, compact building design, walkable communities, preservation of open space, and the availability of a range of transportation options.<sup>2</sup>

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<sup>1</sup> Partnership for Sustainability Livability Principles:

[http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/sustainable\\_housing\\_communities/Six\\_Livability\\_Principles](http://portal.hud.gov/hudportal/HUD?src=/program_offices/sustainable_housing_communities/Six_Livability_Principles)

<sup>2</sup> [http://www.epa.gov/dced/about\\_sg.htm#principles](http://www.epa.gov/dced/about_sg.htm#principles)

At the state level, the California Air Resources Board (ARB) adopted a statewide cap-and-trade program in 2011, which is a market-based approach to reducing carbon emissions. Under the program, industries are allowed to trade carbon credits in an attempt to meet state mandates to bring back carbon pollution to 1990 levels by 2020. Cap-and-trade is the result of a comprehensive set of policy measures developed at the state level designed to reduce greenhouse gas (GHG) emissions. California Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006 – established the regulatory and market mechanisms that make cap-and-trade possible.

In the wake of AB 32, the legislature adopted – and the governor signed Senate Bill (SB) 375 which requires California’s 18 metropolitan planning organizations to align regional transportation, housing and land use plans and to prepare a Sustainable Communities Strategy (SCS) to reduce the amount of vehicle miles travelled in the region. The SCS process is coordinated with the regional transportation planning (RTP) process.

### Freight System Implications

While SB 375 does not target the trade and transportation sector, the likely impact on goods movement is great. As was the case with national livability and sustainability principles, at the more local level where the SCS will be developed, freight is rarely part of the vocabulary of urban sustainability. Smart growth and sustainable environments may in fact pose challenges for freight movements. Compact building design and a concentration of activity generate freight and pedestrian conflicts, slow the movement of freight, and result in congestion, pollution, noise, excess energy consumption, and greater accident risks for pedestrians, bicyclists, and passenger cars. They may also require more frequent and concentrated deliveries and pickups. Denser urban environments like those considered desirable in newly revitalized urban cores also generate significant trips tied to service delivery (trash pickup, maintenance services, etc.) but with limited parking and loading facilities and competition for scarce road, curb and sidewalk space. Growth in electronic commerce may contribute to delivery challenges as more home deliveries are made. Cities may respond by limiting truck size or access, impeding freight movements.

### Planning Considerations

Toolkits for sustainable development<sup>3</sup> rarely incorporate freight. In fact, traffic calming solutions like roundabouts and pedestrian-friendly environments with limited (or prohibited) vehicle access actually constrain freight movements or displace traffic to other and in some cases less direct and efficient routes. Inadequate loading and parking facilities result in illegal double parking which in turn increases local street congestion and increases travel times for both passenger vehicles and trucks.

Zoning and planning standards for new residential and commercial developments may provide an opportunity to create new parking and loading spaces that accommodate freight.

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<sup>3</sup> Examples include the National Association of City Transportation Officials Urban Street Design Guide (<http://www.nyc.gov/html/dot/downloads/pdf/2012-nacto-urban-street-design-guide.pdf>) and the New York City Street Design Manual (<http://www.nyc.gov/html/dot/html/pedestrians/streetsdesignmanual.shtml>).

Redevelopments or infill developments may, on the other hand, create new problems. In infill developments, freight-related land uses, such as warehouses and railyards, may already exist. The implementation of a desired smart growth or sustainable plan can cause encroachment on freight land uses and can introduce new conflicts where none existed.

## Resources

Assembly Bill (AB) 32: Global Warming Solutions Act:

<http://www.arb.ca.gov/cc/ab32/ab32.htm>

Brookings Institution Metropolitan Planning for Sustainable Growth:

<http://www.brookings.edu/events/2009/10/13-metropolitan-planning>

National Association of City Transportation Officials Urban Street Design Guide:

(<http://www.nyc.gov/html/dot/downloads/pdf/2012-nacto-urban-street-design-guide.pdf>)

New York City Street Design Manual:

(<http://www.nyc.gov/html/dot/html/pedestrians/streetdesignmanual.shtml>)

Partnership for Sustainability Livability Principles:

[http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/sustainable\\_housing\\_communities/Six\\_Livability\\_Principles](http://portal.hud.gov/hudportal/HUD?src=/program_offices/sustainable_housing_communities/Six_Livability_Principles)

Senate Bill (SB) 375: Sustainable Communities: <http://www.arb.ca.gov/cc/sb375/sb375.htm>

Smart Growth Principles: [http://www.epa.gov/dced/about\\_sg.htm#principles](http://www.epa.gov/dced/about_sg.htm#principles)

